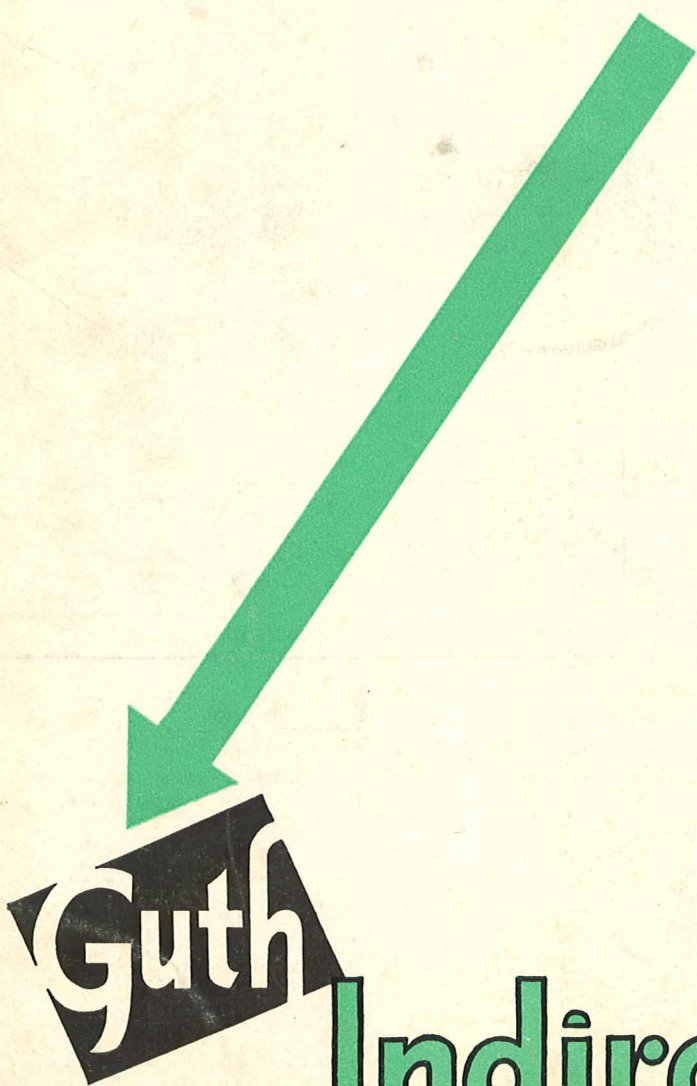


# Quality Illumination

DIFFUSED BY RE-DIRECTING FROM CEILING



## Indirect-Lite





# Banish Glare

## *The Enemy of Vision*

### *Light and Human Efficiency*

In this day of keen competition, where efficiency in the office is as essential as in the factory, it is well that due consideration be given the "Sight" if health, speed and comfort are to be acquired in the home, office or institution.



### *Illumination and Vision*

Light or illumination is to assist vision and therefore lighting equipment should be first analyzed for its qualities in aiding the eye to see quickly and comfortably.



## Human Physical Reactions to Light

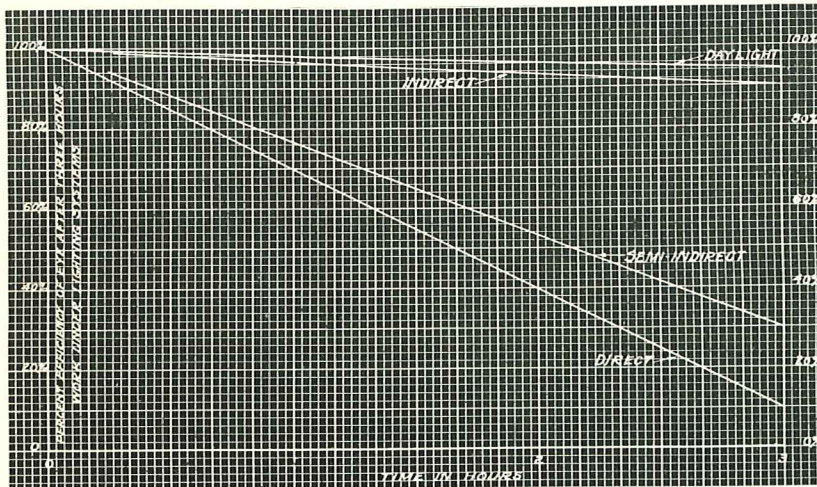
There are three human reactions to light, namely: physical, mental and spiritual. A type of equipment or form of illumination which would be acceptable to one of these reactions may not be suited to another.

As one of the most important needs for good lighting is in the office, we will devote this booklet to the equipment most suitable to accommodating the mental reaction and its various uses.

## Indirect Illumination

It has been estimated that of the five senses we gain approximately 80% of our knowledge through the sense of sight, and about 30% of the nerve energy of the body is consumed by the eye, therefore, the modern efficient office must have an abundance of light evenly distributed and all glare eliminated. To accomplish this, some form of indirect illumination must be used.

Chart No. 1 THE FERREE TEST FOR EYE EFFICIENCY  
Indirect Lighting almost equal to daylight.



Guth Indirect-Lite installation in office of San Joaquin Light and Power Co., Selma, Calif.

## Light and Eye Fatigue

The proof of this is best shown by Chart No. 1, which shows the comparative eye fatigue under the various forms of illumination where close visual work is prolonged over a period of three hours, which is typical in many offices and drafting rooms. To visualize this best, let us consider natural or daylight. You wouldn't take your paper or book out into the bright sunshine to read. The glare reflected from the paper would be blinding. This is direct light. If you want comfort for reading out of doors you would seek the shade of a tree or a building. Here you can use your eyes for long periods of time without discomfort. This is indirect lighting.



## Glare, the Enemy of Vision

Glare is one of the greatest enemies of vision. It is difficult to measure glare, but it might be defined as contrast. Any visible light source which is brighter than the surroundings in the line of vision might produce glare.

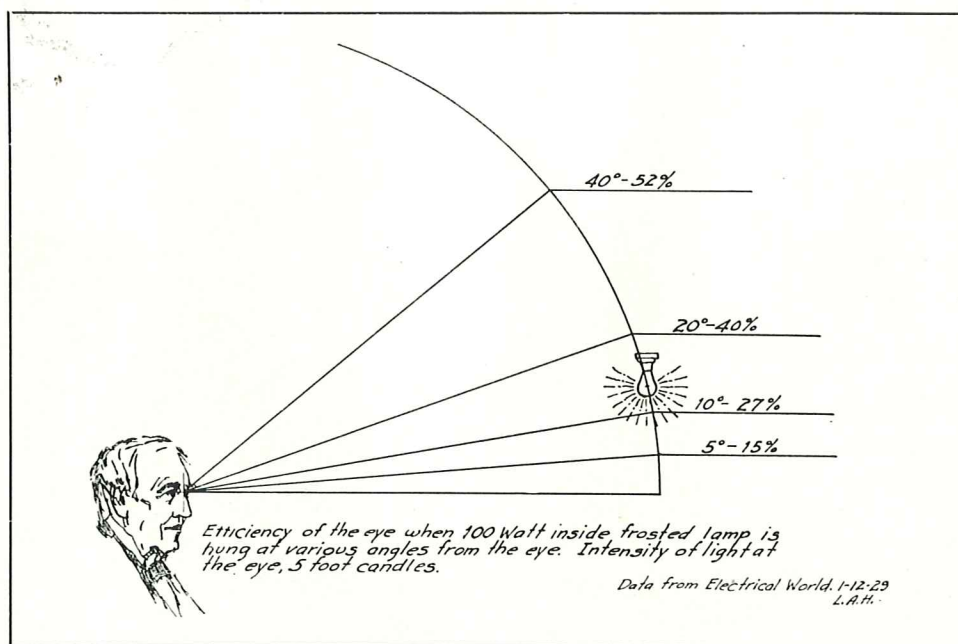


Chart No. 2

Chart No. 2 shows the ability of the eye to see when a glare source is placed at various angles from the eye. Where total indirect lighting is used there is no glare, for the eye is completely shielded from the light source.

## Gloom or Lack of Sufficient Light

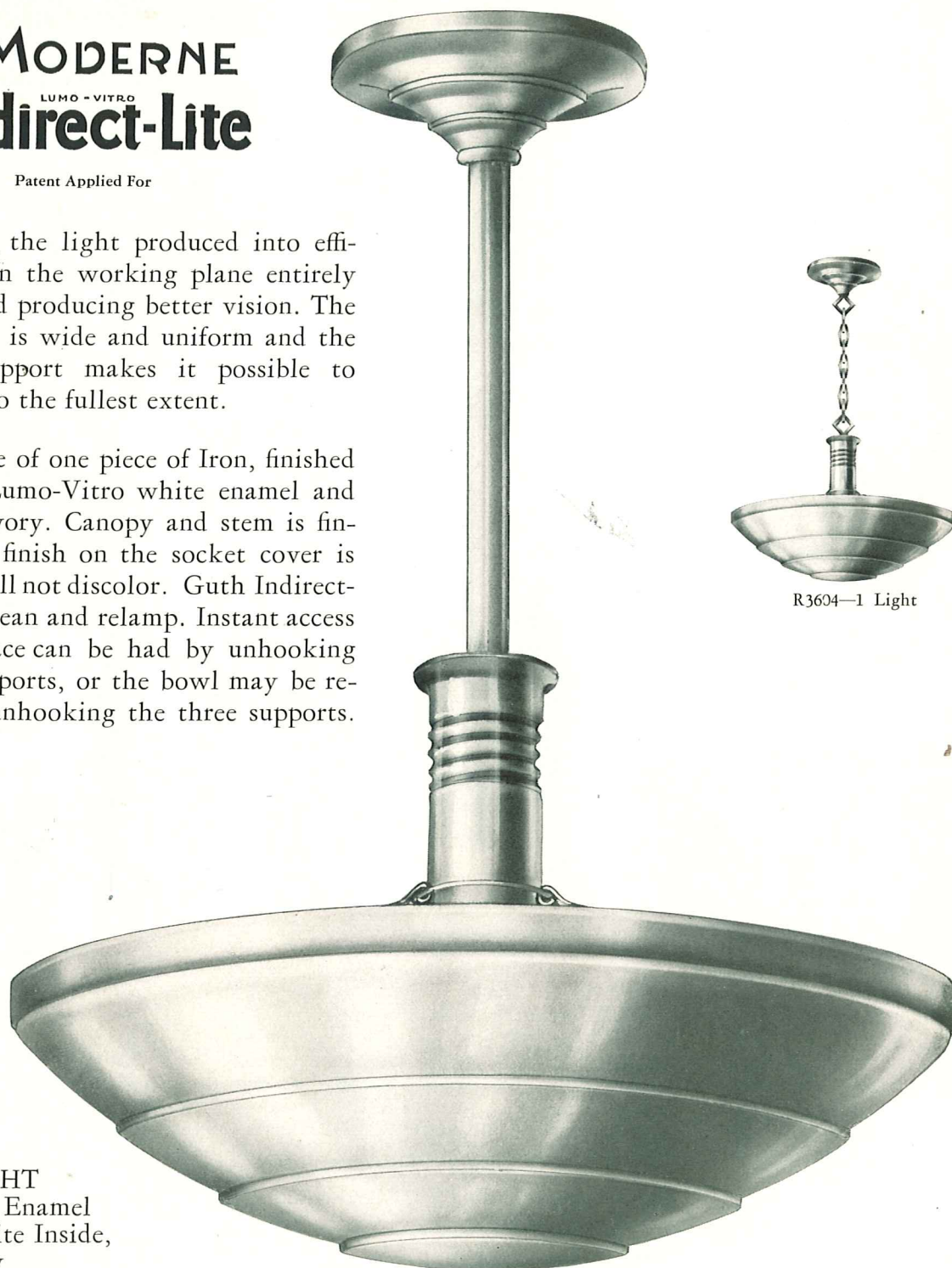
In addition to glare, or lack of sufficient light, gloom does its part to cause eye strain and fatigue. The proper amount of light may be governed by the kind of work to be done. However, for highest efficiency we know that intensities may reach an excess of 100 foot candles if total indirect equipment is used. The eye efficiency under the various levels of illumination, based on 100% efficiency at 100 foot candles, is shown in Chart No. 3 (on page No. 6).

# Guth MODERNE LUMO-VITRO Indirect-Lite

Patent Applied For

Guth Indirect turns the light produced into efficient illumination on the working plane entirely eliminating glare and producing better vision. The distribution of light is wide and uniform and the adjustable bowl support makes it possible to utilize distribution to the fullest extent.

The reflector is made of one piece of Iron, finished on the inside with Lumo-Vitro white enamel and on the outside in Ivory. Canopy and stem is finished in Ivory. The finish on the socket cover is heat resisting and will not discolor. Guth Indirect-Lites are simple to clean and relamp. Instant access to the reflecting surface can be had by unhooking one of the bowl supports, or the bowl may be removed entirely by unhooking the three supports.



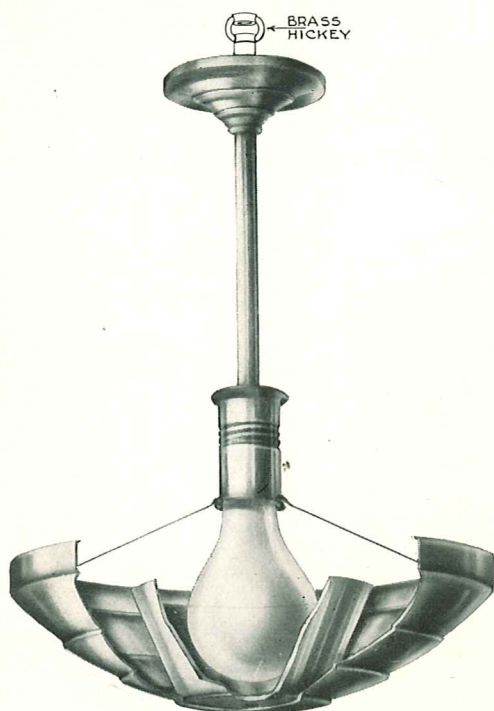
R3604-1 Light

R3622-1 LIGHT  
Bowl, Lumo-Vitro Enamel  
Ivory Outside—White Inside,  
Stem, Ivory

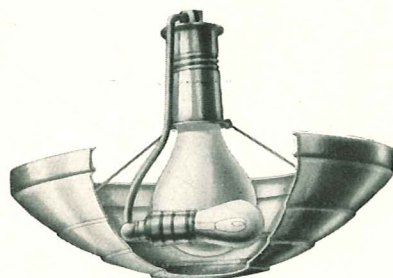
Tube Stem		Chain Stem		Lt.	Skt.	Wattage	Diam.	Lgth.	Price
Number	Code	Number	Code						
R3622	Aerate	R3604	Acetic	1	Medium	150-200	12½"	30"	\$12.75
R3623	Aerial	R3605	Acquit	1	Medium	200	15"	30"	14.00
R3624	Affray	R3606	Active	1	Mogul	300-500	15"	36"	15.50
R3625	Afraid	R3607	Adduce	1	Mogul	300-500	18"	42"	16.75
R3626	Aghast	R3608	Adjure	1	Mogul	750-1000	18"	42"	16.75

Additional Length, \$.75 Per Foot List

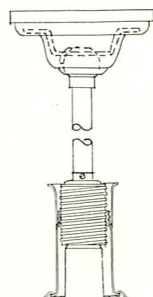




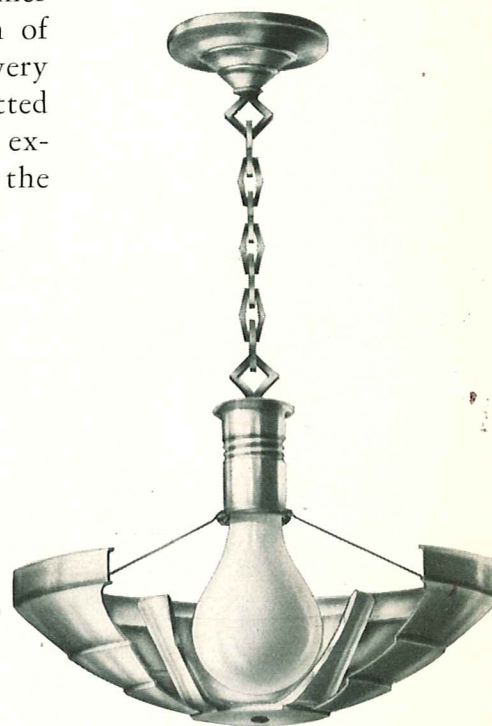
R3628—Bowl Inside



Showing Nite-Light



R3646, R3652, R3658



R3616—Bowl Exposed

The Moderne Guth Indirect Unit can be furnished with or without a china bowl inner reflector as shown in construction detail R 3628. The advantage of the inner reflector is that it can instantly be lifted out, cleaned, and set in place again and that it retains its initial efficiency for a greater period of time because there is a smaller dust settling area. The china bowl has very high reflecting characteristics.

Guth Indirect-Lite type R3616 as illustrated has the inner reflector, with the bottom of the reflector exposed. A very soft mellow light is emitted downward through the exposed bowl, enhancing the appearance of the fixture.

Chain Stem China Bowl Inside		Chain Stem China Bowl Exposed		Tube Stem China Bowl Inside		Tube Stem China Bowl Exposed		Lts.	Skt.	Wattage	Diam.	Lgth.	Price
Number	Code	Number	Code	Number	Code	Number	Code						
R3610	Attune	R3616	Aviary	R3628	Bailee	R3634	Bamboo	1	Med.	150-200	12 1/2"	30"	\$14.50
R3611	Auburn	R3617	Awaken	R3629	Bailor	R3635	Bandit	1	Med.	200	15"	30"	15.75
R3612	Aurora	R3618	Awning	R3630	Ballet	R3636	Banner	1	Mog.	300-500	15"	36"	18.00
R3613	Author	R3619	Babble	R3631	Ballot	R3637	Bantam	1	Mog.	300-500	18"	42"	19.25
R3614	Avenue	R3620	Baboon	R3632	Banana	R3638	Banter	1	Mog.	750-1000	18"	42"	20.50

Additional Length, \$0.75 Per Foot List

Ball and Socket Joint with Tube Stem  
Not Equipped with China Bowl

Number	Diam.	Lgth.	Price	Code
R3646	12 1/2"	30"	\$13.50	Banyan
R3647	15"	30"	14.75	Barber
R3648	15"	36"	16.25	Barren
R3649	18"	42"	17.50	Bateau
R3650	18"	42"	17.50	Bathos

Additional Length, \$0.75 per Foot List

Ball and Socket Joint Tube Stem

China Bowl Inside		China Bowl Exposed		Diam.	Price
Number	Code	Number	Code		
R3652	Batten	R3658	Beaver	12 1/2"	\$15.25
R3653	Batter	R3659	Becalm	15"	16.50
R3654	Battle	R3660	Beckon	15"	18.75
R3655	Bauble	R3661	Bedlam	18"	20.00
R3656	Beadle	R3662	Beetle	18"	21.25

Additional Length, \$0.75 Per Foot List

Nite-Lite can be furnished on 15" and 18" diameter

With Tube Stem, \$3.25 List Additional

NO PACKAGE CHARGES—PRICES F. O. B. ST. LOUIS

## Efficiency in Work

Various figures for the increased human efficiency under total indirect illumination, or proper intensity, have been given, but if it were only 10% it is well worth the cost.

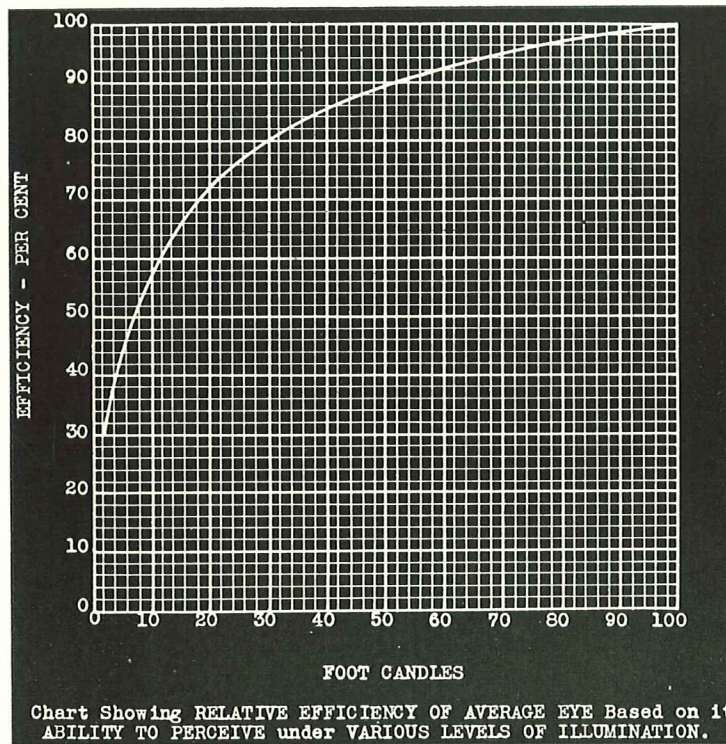


Chart No. 3

## Light, Wattage and Color

The efficiency of an installation depends upon the equipment, the size of lamp used, the ceiling height, the area of the room and the color of the ceiling and surroundings. With total indirect equipment the ceiling is depended upon as a secondary light source reflecting the light from the lamp back into the working plane, consequently the height and color of the ceiling are two of the most important factors. A ceiling 15 ft. high will require considerably more wattage to obtain the same light on a working plane 30 inches above the floor than would be required for a 10 ft. ceiling. The color of the ceiling is even more important as a result of the absorption of light by certain colors. Dark colors absorb as much as 85% of the light, which would make indirect lighting entirely impractical. Dark ceilings cause an unnatural effect and are usually depressing. In our out-of-door life our ceiling, or sky, is always our natural light source, and we are happier and more cheerful under a bright sky, consequently, light ceilings should be used. White, or ivory are usually preferable.



## *Lamp Sizes and Fixture Efficiency*

Owing to the difference in efficiency of the various sized Mazda lamps, it is generally advisable to use the larger wattage lamps as will be seen in table No. 4. From this you will note that one watt of current in a 100 watt lamp, will produce but 13.5 lumens, while a watt of current in a 500 watt lamp will produce nearly 20 lumens. Two 500 watt lamps in suitable fixtures will produce more illumination than five 200 watt lamps in similar equipment.

It will be seen from this that in indirect lighting systems, greater efficiency may be acquired by the use of fewer large units.

With direct lighting systems it is advisable to use more small units to eliminate surface brightness and get a more even distribution of light.

Savings effected are, fewer wiring outlets and fixtures; also lower lamp and servicing costs.

## *Recommended Spacing and Hanging Height for Guth Indirect-Lites*

Ceiling Height	Spacing between Units	Top of Bowl From Ceiling
8'	7' to 8'	1' to 2'
8' 6" to 9'	7' to 8'	1' to 2'
9' 6" to 10'	8' to 10'	1½' to 2½'
10' 6" to 11'	10' to 12'	2' to 3'
11' 6" to 12'	10' to 12'	2' to 3'
12' 6" to 13'	10' to 12'	2' to 3'
13' 6" to 14'	10' to 14'	2½' to 3½'
14' 6" to 15'	11' to 15'	2½' to 4'
15' 6" to 16'	12' to 16'	2½' to 4'
16' 6" to 18'	14' to 20'	3' to 4'

### RECOMMENDED WATTS PER SQUARE FOOT

Offices—3 watts, Drafting Room 5 to 10 watts

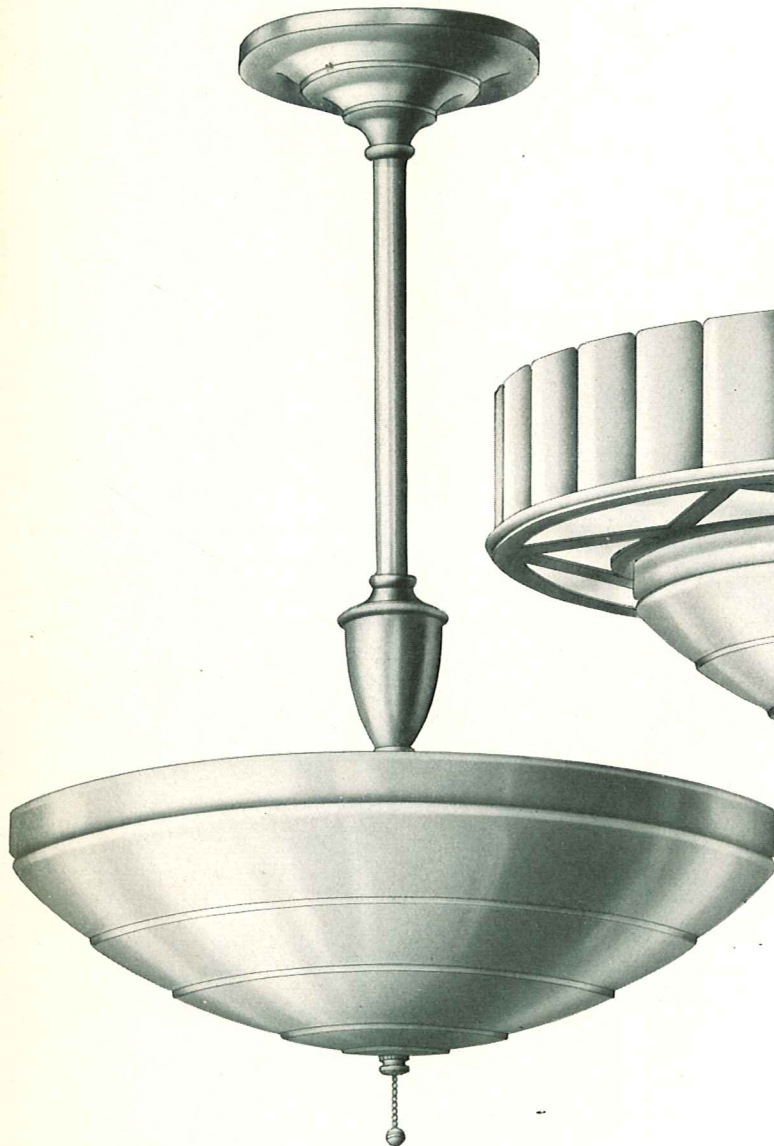
Hospital Operating Rooms 20 to 25 watts



## Indirect Lighting

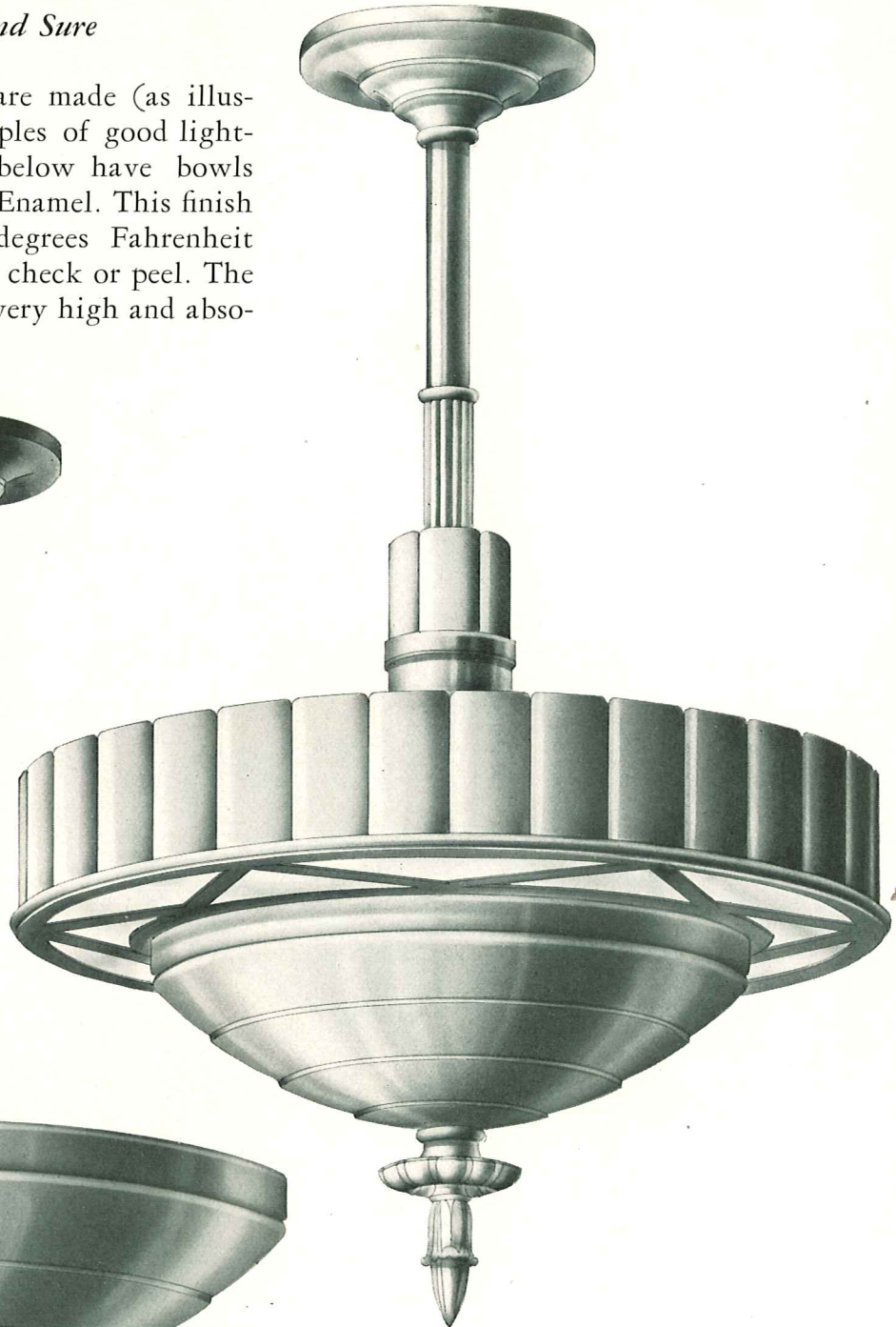
### Makes Vision Fast and Sure

Decorative type Guth Indirects are made (as illustrated) involving the same principles of good lighting. The two types illustrated below have bowls finished in Lumo-Vitro Porcelain Enamel. This finish is fired on the Metal at 1700 degrees Fahrenheit and is guaranteed not to discolor, check or peel. The reflection value of Lumo-Vitro is very high and absolutely permanent.



R 4100—2 lights

Bowl, Lumo-Vitro Enamel, Ivory Outside—White Inside  
Hanger Finish F660 (Marine Bronze)  
Width 15 inches—Length 30 inches  
Specify Wattage Desired  
Pull switch in bottom of bowl  
Price complete \$20.00  
Code Hobby



R 4095—1 light  
Bowl, Lumo-Vitro Enamel  
Ivory Outside—White Inside  
Hanger finish F751 (Antique Gold)  
Six panels of Alabaster Cased Glass in bottom  
of frame.  
Width 18½ inches—Length 36 inches  
Specify Wattage Desired  
Price complete \$60.00  
Code Hockey

## Banish Uneven, Glaring Light

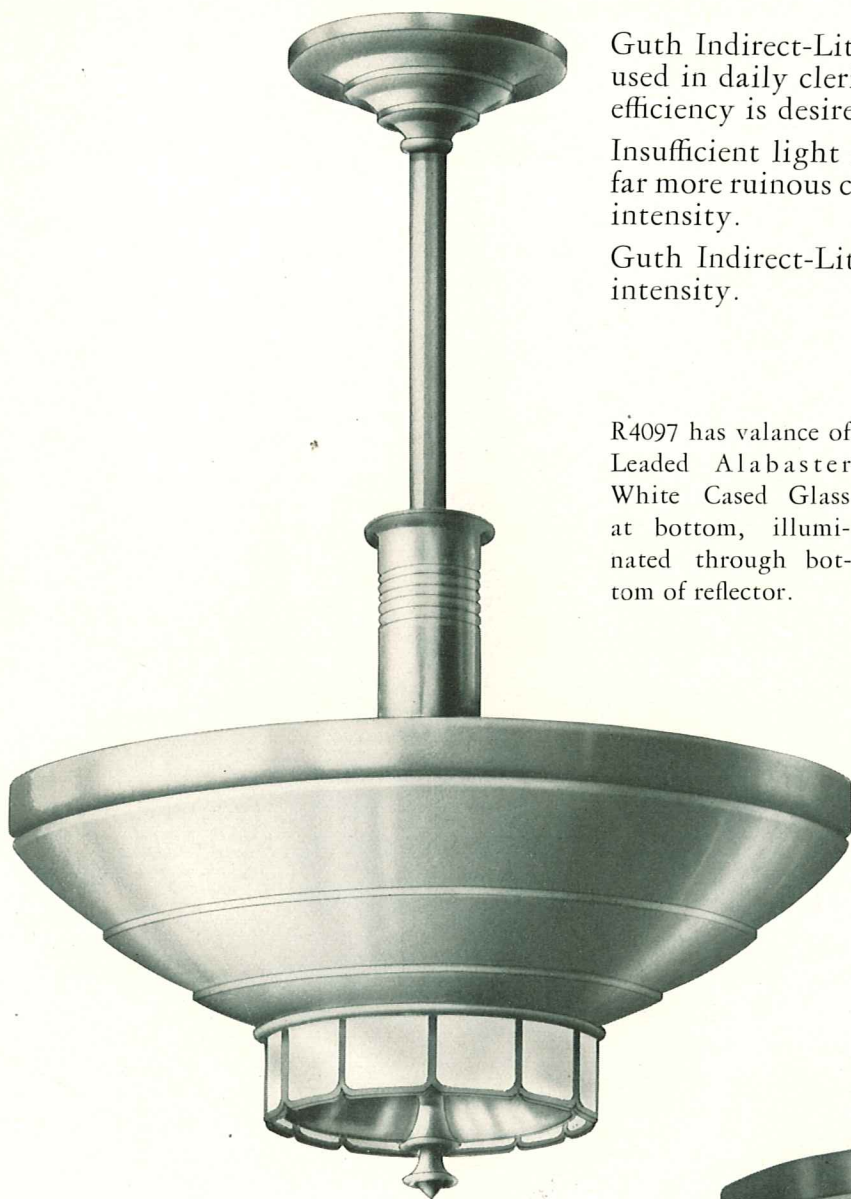
### Which Ruins Sight

Guth Indirect-Lites are recommended wherever the eye is used in daily clerical work and where undisturbed mental efficiency is desired.

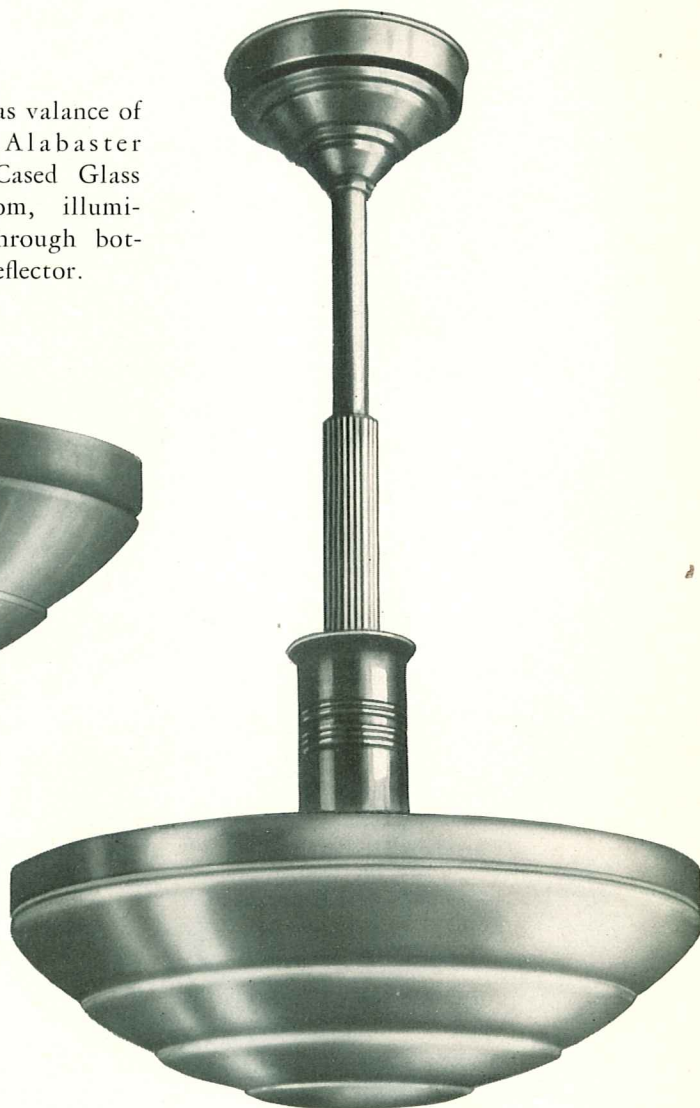
Insufficient light is a common cause of poor vision, but a far more ruinous condition is excessive variation in lighting intensity.

Guth Indirect-Lites produce an efficient uniform lighting intensity.

R4097 has valance of  
Leaded Alabaster  
White Cased Glass  
at bottom, illumi-  
nated through bot-  
tom of reflector.



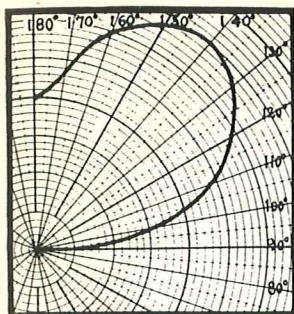
R4097—1 Light  
Bowl, Lumo-Vitro Enamel  
Ivory Outside—White Inside  
Hanger Finish, Ivory  
Width 12 inches, Length 30 inches  
Specify Wattage Desired.  
Price Complete ~~\$35.00~~ **\$22.00**  
Code Holm



R4077—1 Light  
Reflector—Polished Chromium Outside  
with  
Inner Lining of Oxidized Aluminum  
Hanger Finish F751 (Antique Gold)

Number	Lights	Socket	Wattage	Diameter	Length	List
R4075	1	Medium	150-200	12½"	30"	\$22.80
R4076	1	Medium	200	15"	30"	26.00
R4077	1	Mogul	300-500	15"	36"	27.50
R4078	1	Mogul	300-500	18"	42"	32.00
R4079	1	Mogul	750-1000	18"	42"	32.00





Photometric Chart Showing Light Output of 82%

# Guth Lumo-Vitro Indirect-Lite

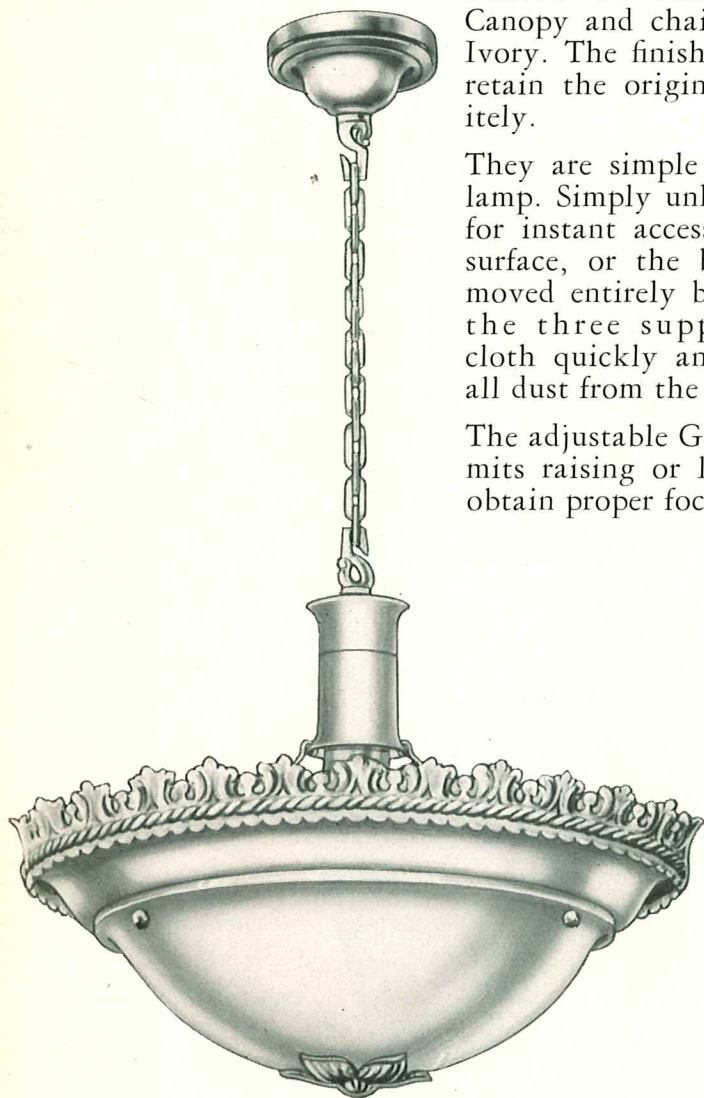
Patent Applied For

The EDWIN E. Guth COMPANY

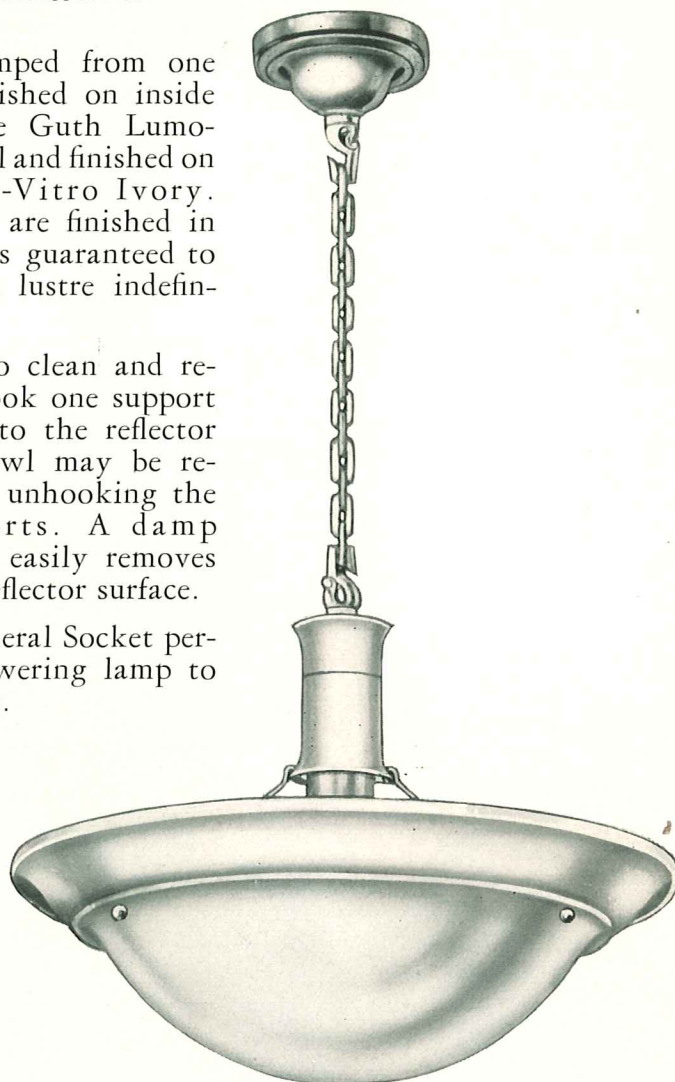
Reflectors are stamped from one piece of metal finished on inside with the exclusive Guth Lumo-Vitro White Enamel and finished on outside in Lumo-Vitro Ivory. Canopy and chain are finished in Ivory. The finish is guaranteed to retain the original lustre indefinitely.

They are simple to clean and re-lamp. Simply unhook one support for instant access to the reflector surface, or the bowl may be removed entirely by unhooking the the three supports. A damp cloth quickly and easily removes all dust from the reflector surface.

The adjustable General Socket permits raising or lowering lamp to obtain proper focus.



R3756—1 Light  
Ivory Lumo-Vitro Enamel Outside  
White Lumo-Vitro Enamel Inside  
Ornamental Band and Bottom Decoration  
Chain and Canopy Ivory



R3750—1 Light  
Ivory Lumo-Vitro Enamel Outside  
White Lumo-Vitro Enamel Inside  
Canopy and Chain Ivory

Number	Skt.	Wattage	Diam.	Lgth.	Price	Code
R3750	Med.	100-150	10"	30"	\$ 8.50	Beeves
R3751	Med.	200	14"	30"	9.30	Befall
R3752	Mog.	300-500	14"	30"	10.80	Befool
R3753	Mog.	300-500	18"	36"	11.65	Befoul
R3754	Mog.	750-1000	18"	36"	11.65	Beggar
R3755	Mog.	750-1000-1500	22"	42"	17.20	Begone

Additional Length, \$0.50 Per Foot List  
Packed One Complete Unit with Wire and Parts in Carton

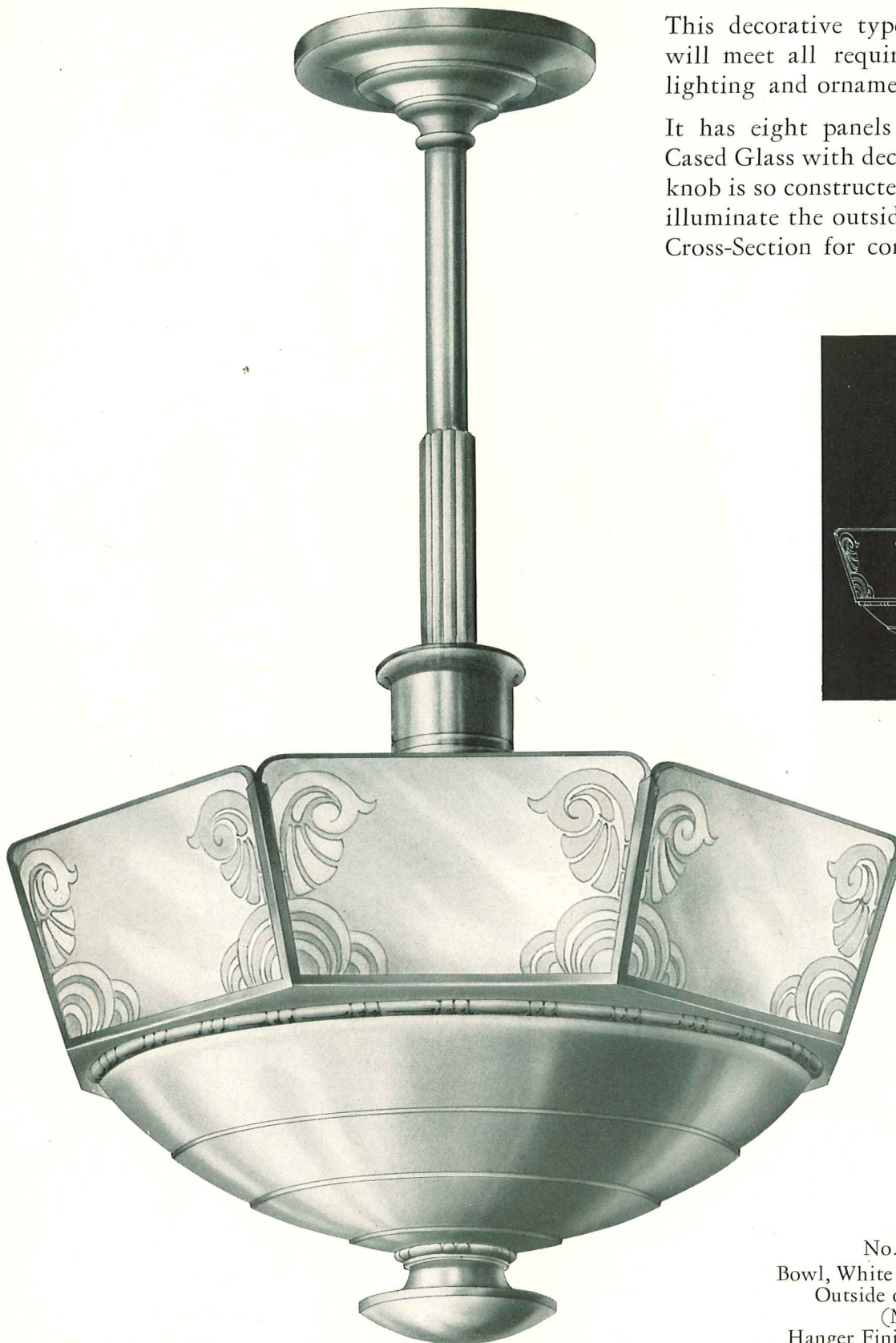
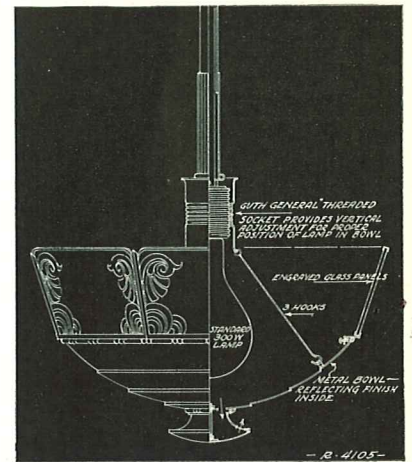
Number	Skt.	Wattage	Diam.	Lgth.	Price	Code
R3756	Med.	100-150	10"	30"	\$10.75	Behave
R3757	Med.	200	14"	30"	11.80	Behalf
R3758	Mog.	300-500	14"	30"	13.30	Behead
R3759	Mog.	300-500	18"	36"	14.65	Beheld
R3760	Mog.	750-1000	18"	36"	14.65	Behold
R3761	Mog.	750-1000-1500	22"	42"	20.70	Behoof

Additional Length, \$0.50 Per Foot List  
Packed One Complete Unit with Wire and Parts in Carton

## Decorative and Efficient

This decorative type Guth Indirect-Lite will meet all requirements where good lighting and ornamentation are essential.

It has eight panels of Alabaster White Cased Glass with decorations. The bottom knob is so constructed as to allow light to illuminate the outside of the bowl. (See Cross-Section for construction details.)



No. R4105—1 Light  
Bowl, White Lumo-Vitro Enamel Inside  
Outside of Bowl Finished F660  
(Marine Bronze)  
Hanger Finish F660 (Marine Bronze)  
Width 19 inches, Length 36 inches  
Specify Wattage Desired  
Price Complete \$65.00  
Code Homag

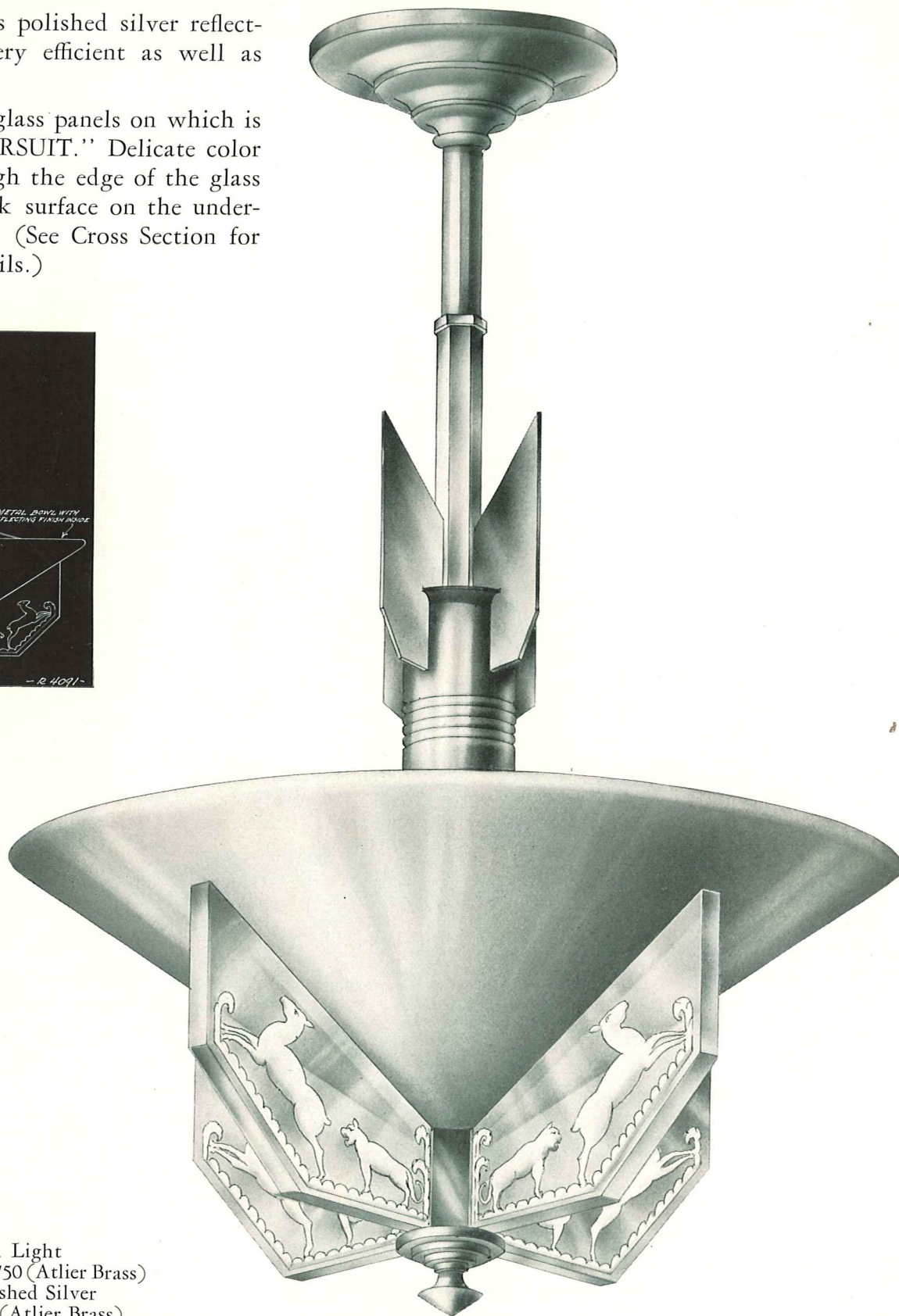
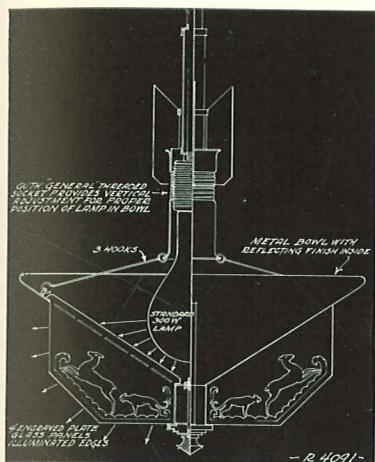


## Art Moderne Guth Indirect-Lite

The  
EDWIN F. Guth  
COMPANY

This unit with its polished silver reflecting surface is very efficient as well as decorative.

It has four clear glass panels on which is carved "THE PURSUIT." Delicate color tones filter through the edge of the glass relieving the dark surface on the underside of the bowl. (See Cross Section for Construction details.)



No. R4091—1 Light  
Bowl, Outside Finish F750 (Atlier Brass)  
Bowl Inside, Polished Silver  
Hanger Finish F750 (Atlier Brass)  
Width 18 inches, Length 36 inches  
Specify Wattage Desired  
Price Complete \$65.00  
Code Honest

## Indirect Lighting Combined with Sun Lamp

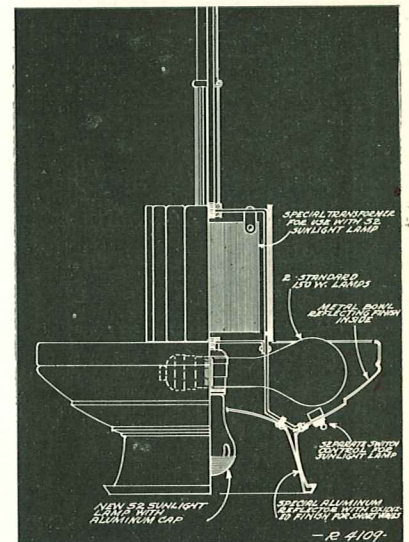
### Dual Purpose Lighting Fixture

The application of dual purpose lighting to commercial and residential uses is receiving marked impetus.

The radiation of the S2 Sunlight Lamp is especially high in those wave lengths most effective producing erythema.

This Lamp has a metal cap over the lower portion, which eliminates glare and the reflector is specially treated aluminum producing best short wave reflection and is readily cleaned.

Recommended for  
Offices, Schools,  
Homes, Hospitals,  
Gymnasiums,  
Swimming Pools,  
Solariums, etc.



### R4109—4 Lights

Indirect reflector, White Lumo-Vitro Enamel inside, Shaded Brown Outside

Sunlamp reflector Polished Aluminum

Canopy Shaded Brown—Hanger Old Pewter  
Dia. 18 inches, Length 36 inches

Lamps { 4—100 watt (not included)  
1—S2 Sunlight (lamp included)

(NOTE: For operation only on 115 volt AC line.)

Price complete, including Two Switches for  
Separate Control of Sunlight Lamp and

Fixture Lamps, \$105.00

Code Homily



*The*

# EDWIN F. GUTH COMPANY

DESIGNERS - ENGINEERS - MANUFACTURERS

PHONE JEFFERSON 3200

## LIGHTING EQUIPMENT

CABLE ADDRESS BRASCOLITE

FOR EVERY PURPOSE

JEFFERSON & WASHINGTON BLVD.

SAINT LOUIS, MO.

**15%** ADDITIONAL PRICE REDUCTION  
EFFECTIVE NOVEMBER 20, 1931.

ALL ITEMS IN CATALOGS NO. 24 - HOSPITALS, SCHOOLS, ETC.  
NO. 25 - COMMERCIAL LINES  
NO. 26 - INDIRECTS, ETC.  
NO. 3 - GUTHFAN LINE.

THE SAME HIGH QUALITY LIGHTING EQUIPMENT.

IMMEDIATE SHIPMENT ON ALL THESE STOCK ITEMS.

OUR EXCEPTIONALLY HIGH TRADE DISCOUNT SCHEDULE MAKES  
GUTH LINE PRODUCTS MORE PROFITABLE TO YOU.

PORCELAIN ENAMEL (OUR LUMO VITRO QUALITY) SURPASSES  
EVERY KNOWN PROCESS FOR PERMANENCE, EFFICIENCY, AND  
BEAUTY.

SIMPLE AND RIGID ASSEMBLY SAVES TIME AND SATISFIES YOUR  
CUSTOMER.

GUTHFAN CAN BE SOLD FOR EVERY DINING ROOM AND YOU WILL  
ALWAYS HAVE REPEAT BUSINESS.

GUTH INDIRECTS GIVE 100% SATISFACTION IN MANY OF THE  
NATION'S LARGEST BUILDINGS - MORE EFFICIENT BY  
COMPARATIVE TESTS - LOWER COST AND SIMPLER SERVICING  
METHODS - RETAIN INITIAL EFFICIENCY PERMANENTLY.

ADDITIONAL CATALOGS AND SPECIAL NET PRICES FOR QUANTITY  
ORDERS ON YOUR REQUEST.

MAY WE HEAR FROM YOU? THANKS!

YOURS VERY TRULY,

THE EDWIN F. GUTH COMPANY,

E. F. GUTH,

EFG-AM

PRESIDENT.



# Guth FAN

U. S. PATENT No. 1699201. OTHER PATS.  
APPLIED FOR. TRADE MARK REGISTERED

## The Greatest Invention in Air-Moving Equipment

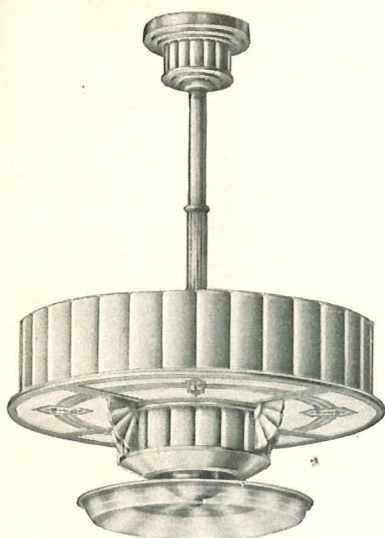
Circulates the cooler air in a room without causing drafts and blasts of wind. The warmer air above the Guth Fan is not pulled down and circulated.

*It Handles Over 5,000 cu. ft. of Air Per Minute.*

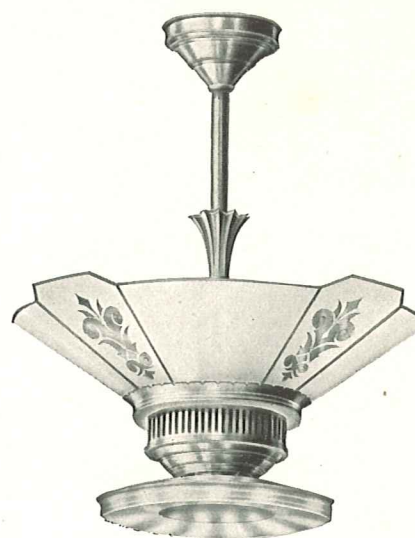
The breeze from the Guth Fan is directed over the entire occupied area of the room. The cooler air below is drawn up to the blade then forced out and downward. This breeze is continuous to the walls, down to the floor, back to the center of the room, and again up to the fan blade.

*Guth Fan Cools Without Causing Colds.*

Demonstration on request without obligation.



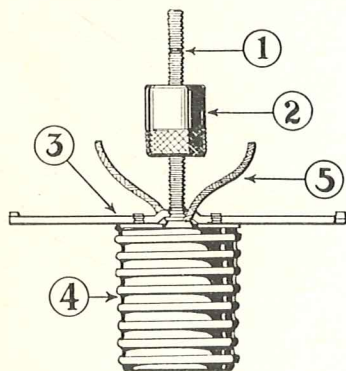
No. R3823—4 Lights  
Finish F741 (Two-tone Pewter)  
Four Panels of Engraved Alabaster  
Cased Glass in Bottom  
Length 48", Spread 19"  
Price Complete with Two Switches for  
Separate Control of  
Light and Fan  
\$165.00



No. R3816—4 Lights  
Finish F545½ (Antique Pewter)  
Alabaster Cased Glass Bowl consisting of  
Four Panels of Plain and Four Panels of  
Engraved Glass  
Length 48", Spread 20"  
Price Complete with Two Switches for Separate  
Control of Light and Fan  
\$140.00

## The GENERAL Socket Cuts Electric and Maintenance Costs

U. S. Patent No. 1745691 and No. 1722743 and Foreign Patents

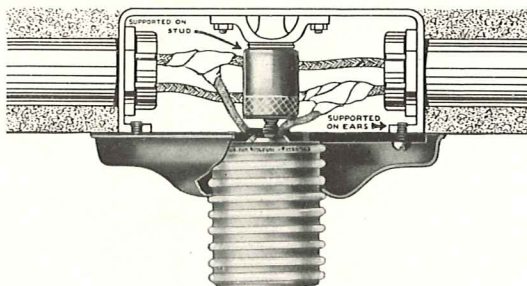


### THE GENERAL SOCKET

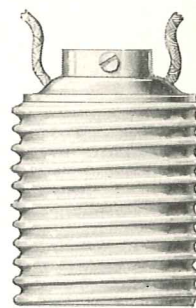
1. Steel Screw with breakoffs every ½ inch.
2. Fixture Stud Coupling.
3. Bridge and Screw Slots for standard box cover ears.
4. Threaded Insulated Socket. Approved 660 watt. Capable of supporting 100 pounds.
5. Two 6-inch Stranded Polarized Wires included but not attached to terminal screws.

The GENERAL Socket fits any standard outlet box and provides a permanent approved fixture support for such fixtures as Industrolites, Glass Steel, Vapor-Proof, Guth Flange and Brascolites.

GENERAL Socket connected to each box provides electric service during construction of building, for polishing and



Number	Socket	Price	Number	Socket	Price
R3738	Medium	\$0.55	R3740	Mogul	\$1.00
Same as R3738 and R3740, without Screw and Extension Piece Nos. 1 and 2.					
Number	Socket	Price	Number	Socket	Price
R3739	Medium	\$0.50	R3741	Mogul	\$0.95
Same as R3738 and R3740, including Udylyte-Plated Box Cover, 4⅜" Diameter					
Number	Socket	Price	Number	Socket	Price
R3734	Medium	\$0.75	R3736	Mogul	\$1.20
Same as R3734 and R3736, without Screw and Extension Piece Nos. 1 and 2.					
Number	Socket	Price	Number	Socket	Price
R3735	Medium	\$0.70	R3737	Mogul	\$1.15
R4066—Medium Socket Locking Ring.....List \$0.07					
R4077—Mogul Socket Locking Ring.....List .12					



### GENERAL SOCKET

with ⅜" Cap

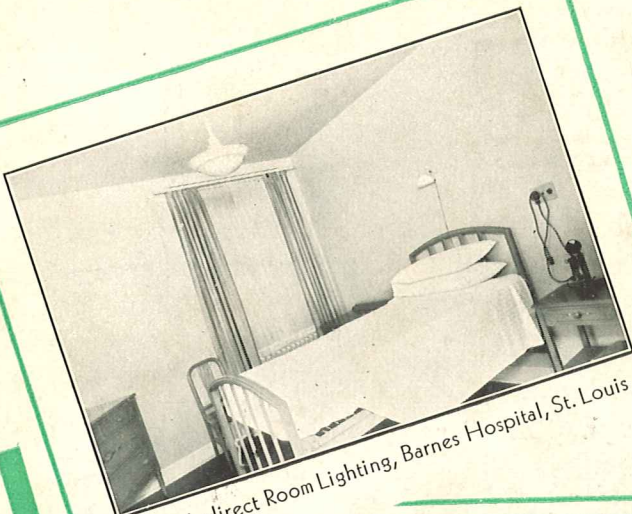
Number	Socket	Price
R4119	Medium	\$0.50
R4120	Mogul	.95

With two 6-inch stranded polarized wires included but not attached to terminal screws.

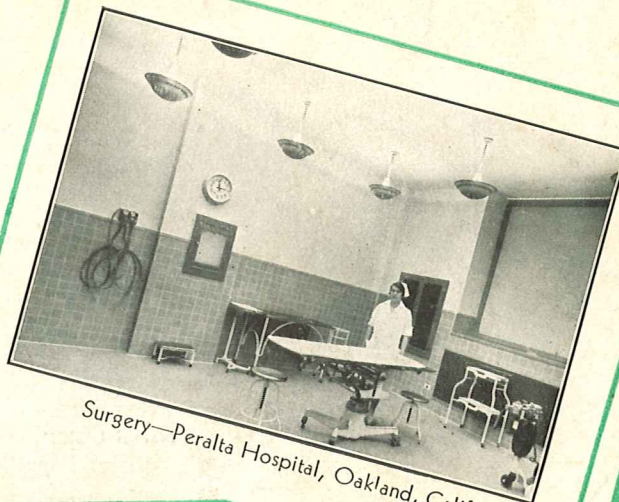
sanding machine, etc., and it costs no more than any standard porcelain socket.

Any manufacturer's lighting equipment can be attached to the GENERAL Socket by fixture locking ring R4066 Medium and R4067 Mogul. Diameter of hole required for Medium socket 1¾ inches, for Mogul 2½ inches.





Guth Indirect Room Lighting, Barnes Hospital, St. Louis



Surgery—Peralta Hospital, Oakland, Calif.



Southern California Edison Co. Ltd., Los Angeles  
Dept. of Engineering Designer

The Washington Water Power Co.,  
W. 825 Trent Avenue,  
Spokane, Washington.

Gentlemen:

After almost a year's use of totally indirect lighting in all the classrooms of the Central Valley High School, we find that it has proved unusually satisfactory in every way.

The shadowless light obtained from Guth indirect lighting units makes it unnecessary for pupils to shift their positions with relation to the lighting fixtures, while blackboard glare is unknown to us now.

The cost is so little in comparison with the saving of eyestrain that it becomes insignificant.

We heartily recommend this system of lighting to any school that has the interests of its students at heart.

Yours very truly,  
R. E. KUHLMAN,  
Superintendent.

REK:S

**Guth**

Mr. Lardner V. Ross,  
Illuminating Engineer,  
Washington Water Power Co.,  
Spokane, Wash.

Dear Sir:

Our chief electrician, Mr. McCarty, has just finished the installation of Guth lights in our office. He has asked me to drop you a line of comment on same.

I am glad to say these new lights exceed by far anything we have ever tried heretofore. In addition to the improved general lighting, the eye-strain caused by close work under the former glaring lights is noticeably absent. We have also been able to discard some twelve or fifteen desk lights.

We are now preparing to install these lights in both our assay office and our warehouse office.

GCG:J

Yours truly,  
G. C. GAGE,  
Office Manager.

**The EDWIN F. GUTH COMPANY**

Designers « Manufacturers  
LIGHTING EQUIPMENT

2615 Washington Ave.

ST. LOUIS, MO.